

ABSTRACT OF THE DISCLOSURE

ESD protection devices without current crowding effect at the finger's ends. It is applied under MM ESD stress in sub-quarter-micron CMOS technology. The ESD discharging
5 current path in the NMOS or PMOS device structure is changed by the proposed new structures, therefore the MM ESD level of the NMOS and PMOS can be significantly improved. In this invention, 6 kinds of new structures are provided. The current crowding problem can be successfully solved, and
10 have a higher MM ESD robustness. Moreover, these novel devices will not degrade the HBM ESD level and are widely used in ESD protection circuits.